

CLAIMS

What is claimed is:

1. A load bearing assembly for supporting a load on a transport system, the load being moveable between a stowed position and an operating position, the load bearing assembly comprising:
 - a. a support frame mounted on the transport system;
 - b. a slide rail mounted within the frame;
 - c. a slide moveable in a substantially vertical path along the slide rail;
 - d. a moveable platform mounted on the slide and moveable therewith within the support frame for substantially vertical linear movement within the frame between a stowed position and an operating position, the platform for supporting a load; and
 - e. a drive system for moving the platform, load and slide between the stowed position and the operating position.
2. The load bearing assembly of claim 1, wherein:
 - a. the support frame has both a horizontal span and a vertical span;
 - b. the platform substantially spans the horizontal span;
 - c. a pair of slide rails are positioned to span the vertical span of the support frame in spaced parallel relationship at opposite sides of the horizontal span;
 - d. a pair of slides are mounted, one each on each slide rail; and
 - e. the platform spans the pair of slides and is secured to each of said slides.

3. The load bearing assembly of claim 2, further comprising a transfer device spanning the space between the spaced slide rails and engaging the slides wherein the drive system is connected directly to the transfer device.
4. The load bearing assembly of claim 3, wherein the transfer device is slip mounted to the slide rails, permitting relative movement between the slide rails and the transfer device.
5. The load bearing assembly of claim 4, wherein the drive system is mounted for relative movement between the drive system and the support frame for minimizing any binding forces between the drive system and the transfer device.
6. The load bearing assembly of claim 3, wherein the drive system is mounted for relative movement between the drive system and the support frame for minimizing any binding forces between the drive system and the support frame.
7. The load bearing assembly of claim 3, wherein:
 - a. the support frame has an upper, elongated mounting surface;
 - b. the slide rails are mounted on and depend from the upper surface;
 - c. a jack screw block is mounted on the transfer device;
 - d. the drive system comprises a vertical screw having one end mounted for rotation on and depending from the upper surface and extending axially through the jack screw block.

8. The load bearing assembly of claim 7, wherein:
 - a. the support frame includes a lower, elongated mounting surface; and
 - b. the slide rails have opposite ends secured to the upper and lower surfaces, respectively.
9. The load bearing assembly of claim 8, wherein the transfer device is slip mounted to the slide rails, permitting relative movement between the slide rails and the transfer device.
10. A lift system for supporting a frac blender on a transport vehicle in a manner permitting the frac blender to be moved along a substantially vertical linear path between a raised, transport position and a lowered, operating position the lift system comprising:
 - a. a support frame mounted on the transport vehicle;
 - b. a slide rail mounted within the support frame;
 - c. a slide moveable in a substantially vertical path along the slide rail;
 - d. a moveable platform mounted on the slide and moveable therewith within the support frame for substantially vertical linear movement within the frame between a stowed position and an operating position, the platform for supporting the frac blender; and
 - e. a drive system for moving the frac blender and platform between the stowed position and the operating position.

11. The lift system of claim 10, wherein:

- a. the support frame has both a horizontal span and a vertical span;
- b. the platform substantially spans the horizontal span;
- c. a pair of slide rails are positioned to span the vertical span of the support frame in spaced parallel relationship at opposite sides of the horizontal span;
- d. a pair of slides are mounted, one each on each slide rail; and
- e. the platform spans the pair of slides and is secured to each of said slides.

12. The lift system of claim 11, further comprising a transfer bar spanning the space between the spaced slide rails and engaging the slides wherein the drive system is connected directly to the transfer bar, the transfer bar being slip mounted to the slide rails for permitting relative movement between the slide rails and the transfer bar.

13. The lift system of claim 12, wherein the drive system is mounted for relative movement between the drive system and the support frame for minimizing any binding forces between the drive system and the transfer bar.

14. The lift system of claim 13, wherein:

- a. the support frame has an upper, elongated mounting surface;
- b. the slide rails are mounted on and depend from the upper surface;
- c. a jack screw block is mounted on the transfer bar;

d. the drive system comprises a vertical screw having one end mounted for rotation on and depending from the upper surface and extending axially through the jack screw block.

15. A lift system for supporting a frac blender on a transport vehicle in a manner permitting the frac blender to be moved along a substantially vertical linear path between a raised, transport position and a lowered, operating position the lift system comprising:

a. a substantially rectangular support frame mounted on the transport vehicle, the support frame having vertical elongated sides and horizontal elongated top and bottom members;

b. a pair of slide rails mounted within the support frame in parallel spaced relationship and extending vertically between the top and bottom frame members, the slide rails having opposite end secured to the ;

c. a slide mounted on each slide rail moveable in a substantially vertical path along the slide rail;

d. a moveable platform spanning the slide rails and mounted on each slide and moveable therewith within the support frame for substantially vertical linear movement within the frame between a stowed position and an operating position; and

e. a drive system for moving the frac blender and platform between the stowed position and the operating position.

16. The lift system of claim 15, further comprising a transfer bar spanning the space between the spaced slide rails and engaging the slides wherein the drive system is connected directly to the transfer bar, the transfer bar being slip mounted to the slide rails for permitting relative movement between the slide rails and the transfer bar.

17. The lift system of claim 16, wherein the drive system is mounted for relative movement between the drive system and the support frame for minimizing any binding forces between the drive system and the transfer bar.
18. The lift system of claim 17, wherein:
 - a. a jack screw block is mounted on the transfer bar;
 - d. the drive system comprises a vertical screw having one end mounted for rotation on and depending from the upper member of the support frame and extending axially through the jack screw block.
19. The lift system of claim 18, wherein the opposite end of the vertical screw is free, permitting relative translational movement between the vertical screw and the support frame.